
TECHNICAL STDS. LAB

Carlos Yep

NSWC IH DIV. Det. Concord

YepC@Concord.Navy.Mil

(925) 246-5379, DSN 350-5379

TECHNICAL STDS. LAB

- Chemical related calibration and measurement standards
 - NAVSEA Standard Gas Program
 - Oxygen Standard Cell Program

NAVSEA STD GAS PROGRAM

- Safety oriented
- Policy: Gas Free Eng'ng Program
 - Oxygen: too much or not enough
 - Flammable or explosive atmospheres
 - Toxic atmosphere

NAVSEA STD GAS PROGRAM

- Historically manufacturers have provided calibration gases with unreliable certification
- This led to the development of the NIST “traceable” certified MET-D calibration gases

STD GAS CYLINDERS



STD GAS MIXTURES

- Hydrogen in Air
- Methane in Air
- Helium in Nitrogen
- Oxygen in Nitrogen
- Carbon Monoxide in Air
- Hexane in Air

GAS ANALYSIS



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SHIPPING



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O₂ STD CELL PROGRAM

- Safety oriented
- Oils and grease can readily ignite in the presence of oxygen, possibly resulting in a dangerous fire and explosion

O₂ STD CELL PROGRAM

- Policy: gages are cleaned to < 5 ppm HC prior to calibration
- Since 1981 Concord provides reference cleanliness verification standards required for safe operation
- We support the entire Naval Community: SEA, AIR, Marine Corps, & Divers

O₂ STD CELL SET



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O₂ CELL FABRICATION



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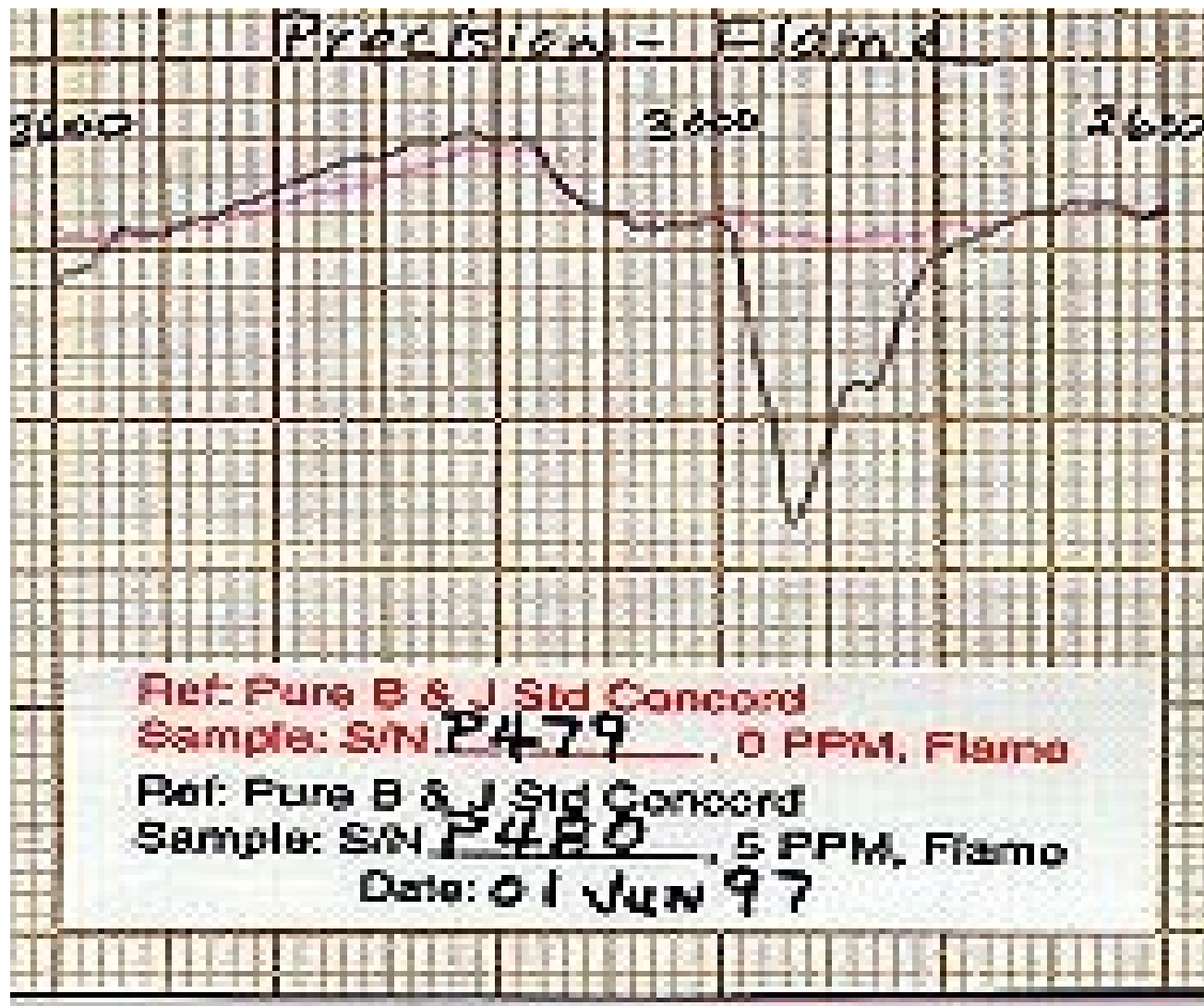
QC USING ACCULAB 2



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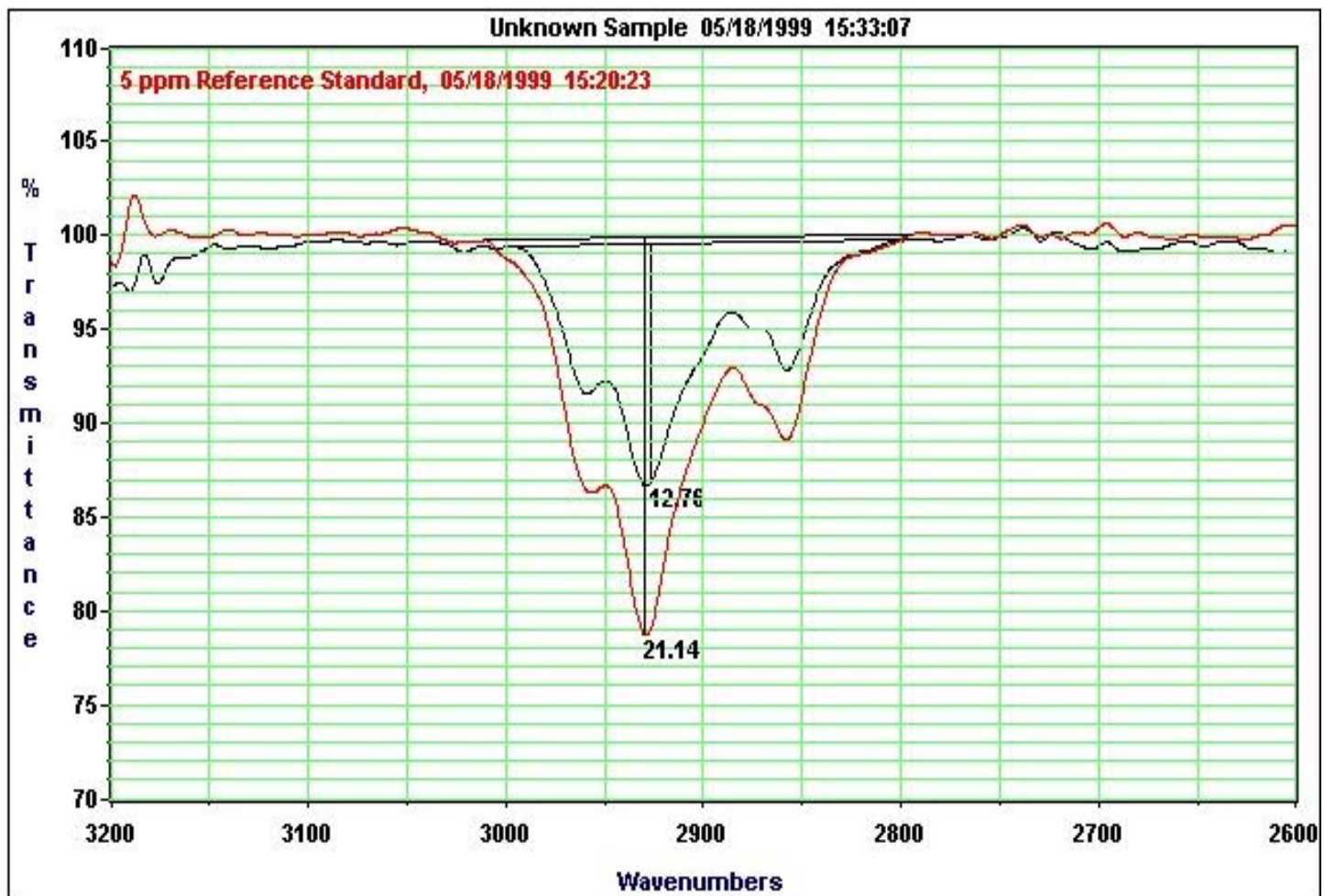
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REF. SPECTROGRAM



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CLEANLINESS VERIF.



ACCOMPLISHMENTS

- All customers are current on their certification
- Feedbacks indicate we've always met customer expectations
- Overnight turn around on CONUS customer request
- Very responsive; excellent customer support

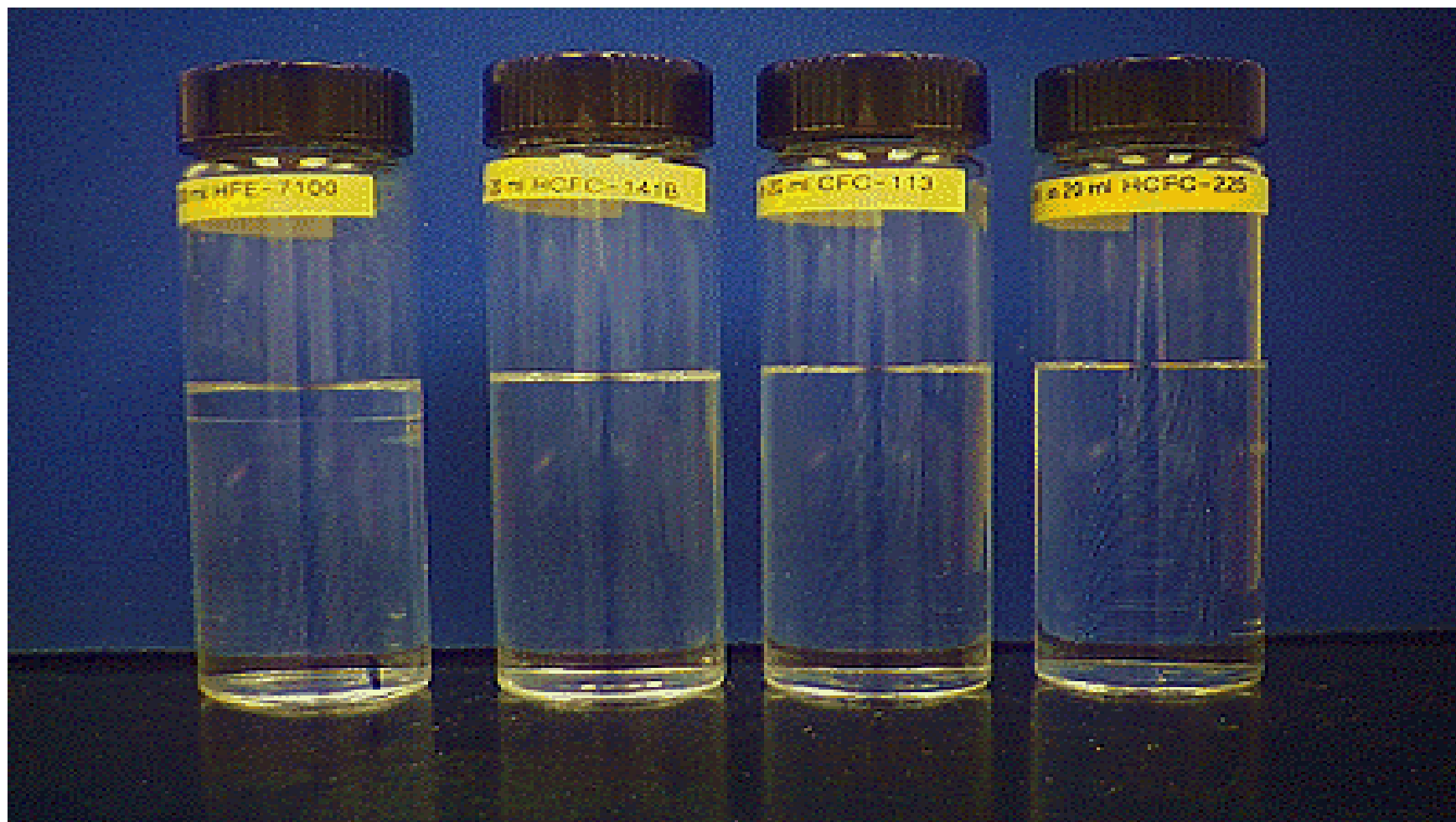
ISSUES

- ANSI/NCSL Z540 certification
- Freon Replacement Solvents
- Surface Quality Monitor (SQM)
- FTIR Upgrade Support

Z540 Standards

- Management standards
- We have good QC procedures in place
- We provide excellent customer support
- Need to develop QM, SOPs, update program documentation

10% Oil in HFE/141B/113/225

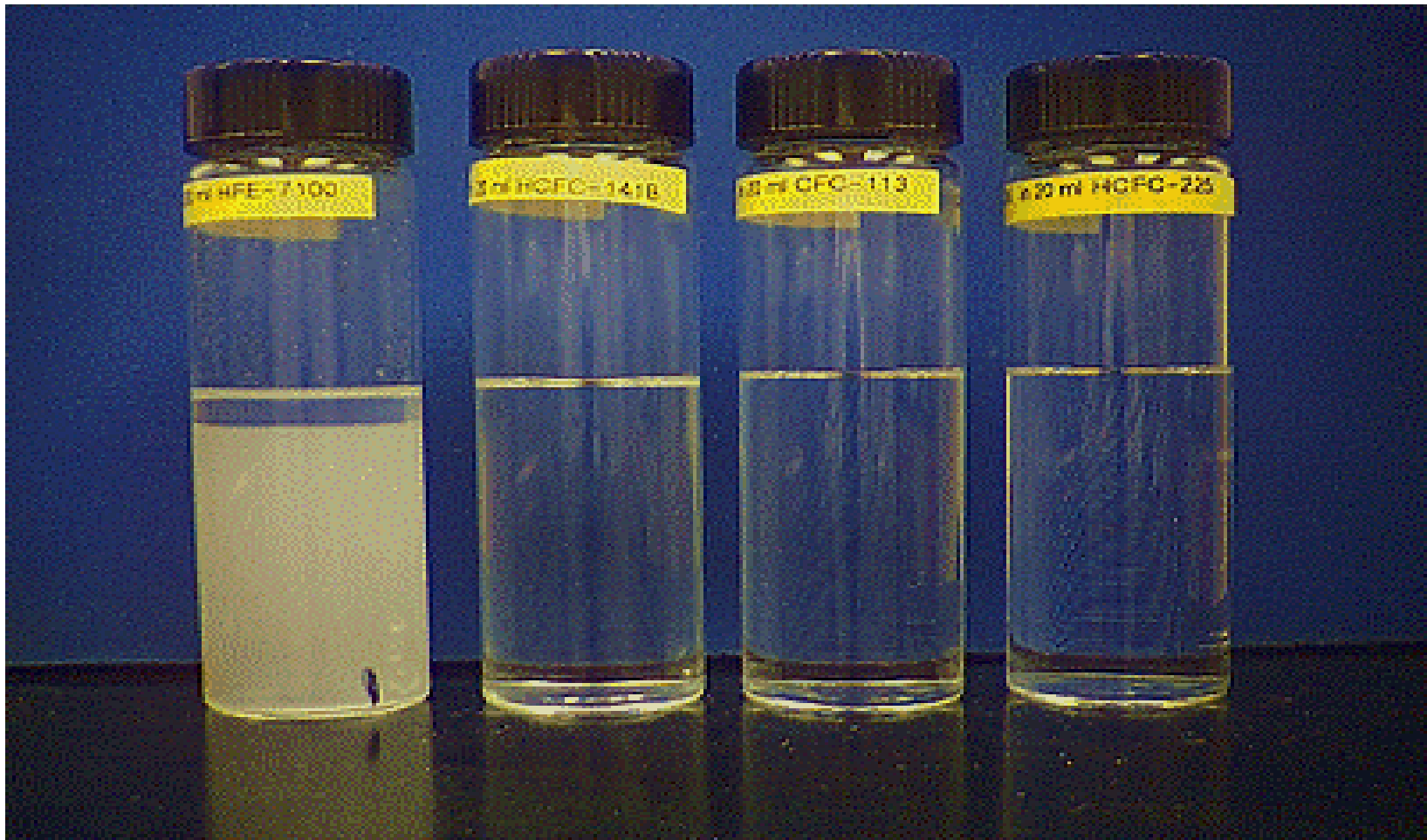


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1 Min. rest after Agitation



Oil Ring - 50 ppm oil/HFE-7100

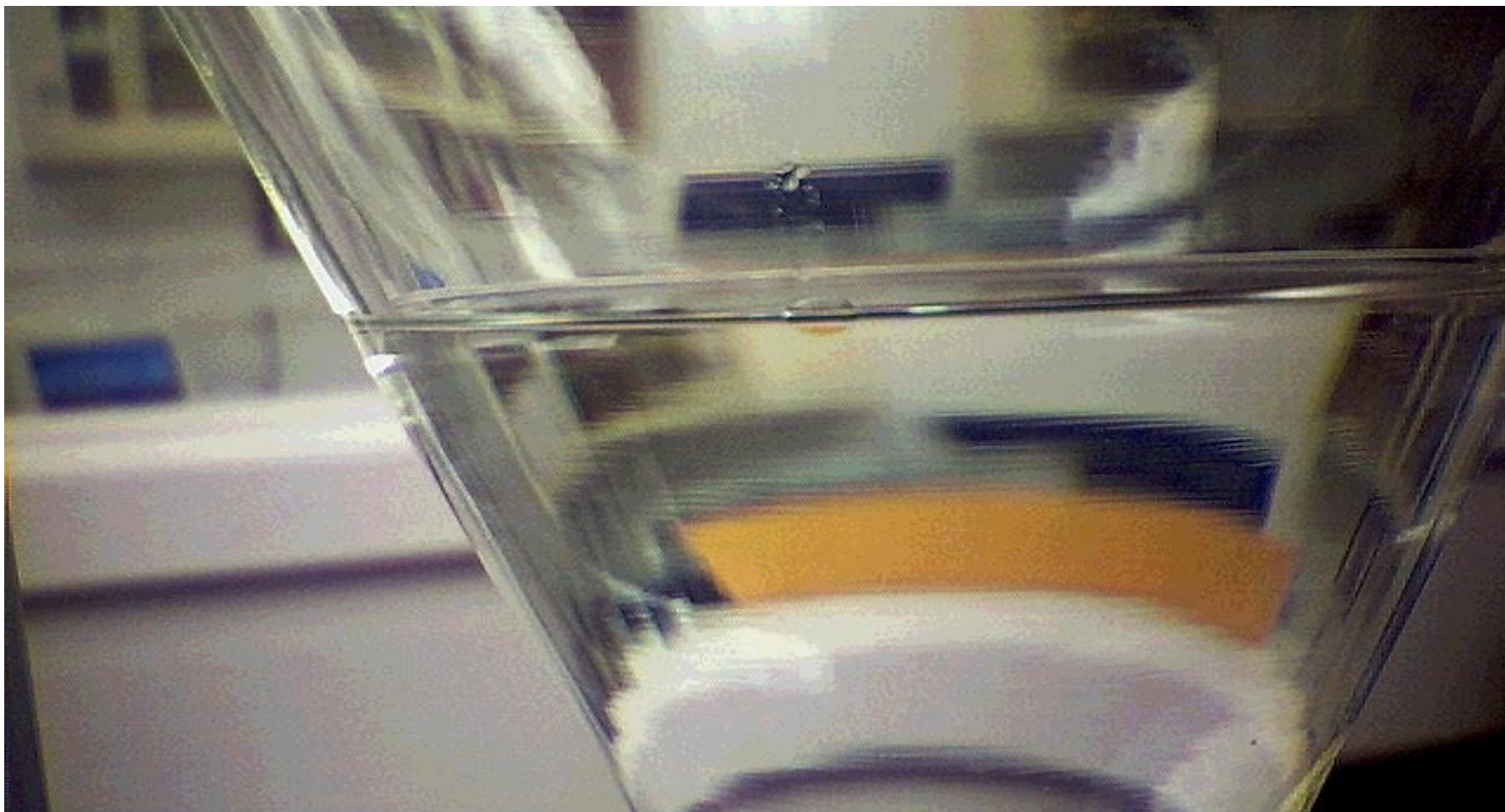


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Oil Drop clings to the Wall



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SQM

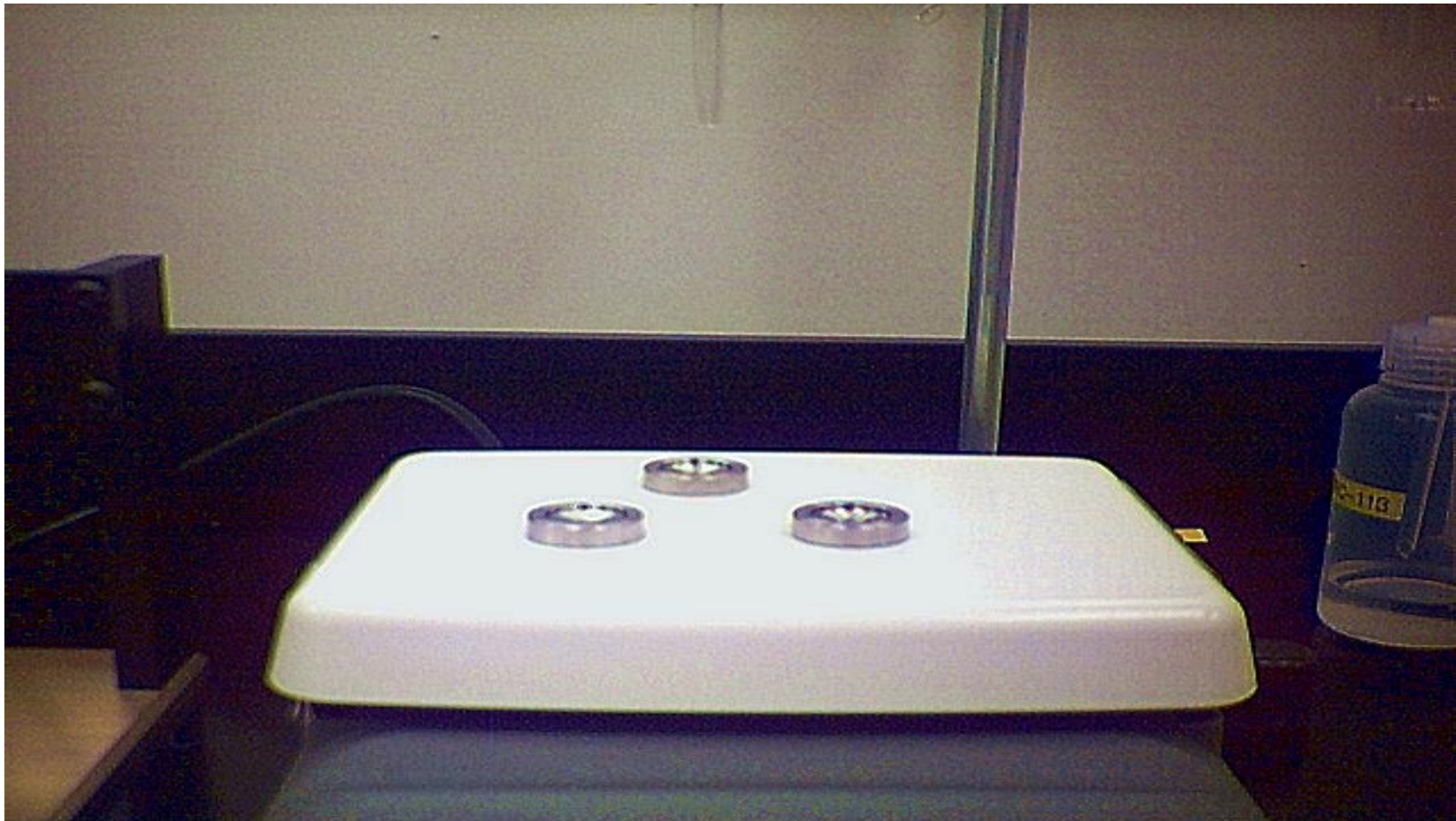


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SQM



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SQM



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SQM

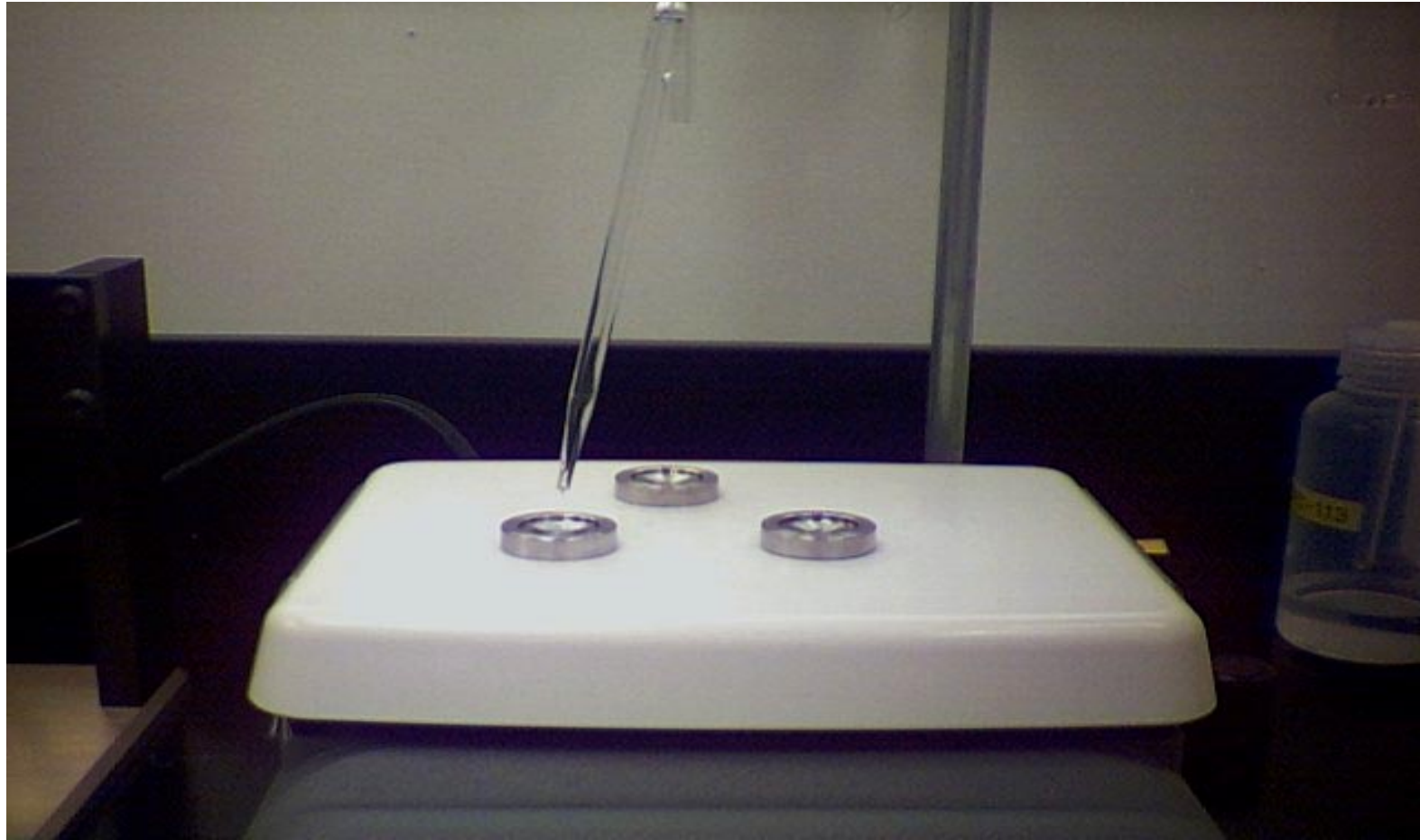


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SQM

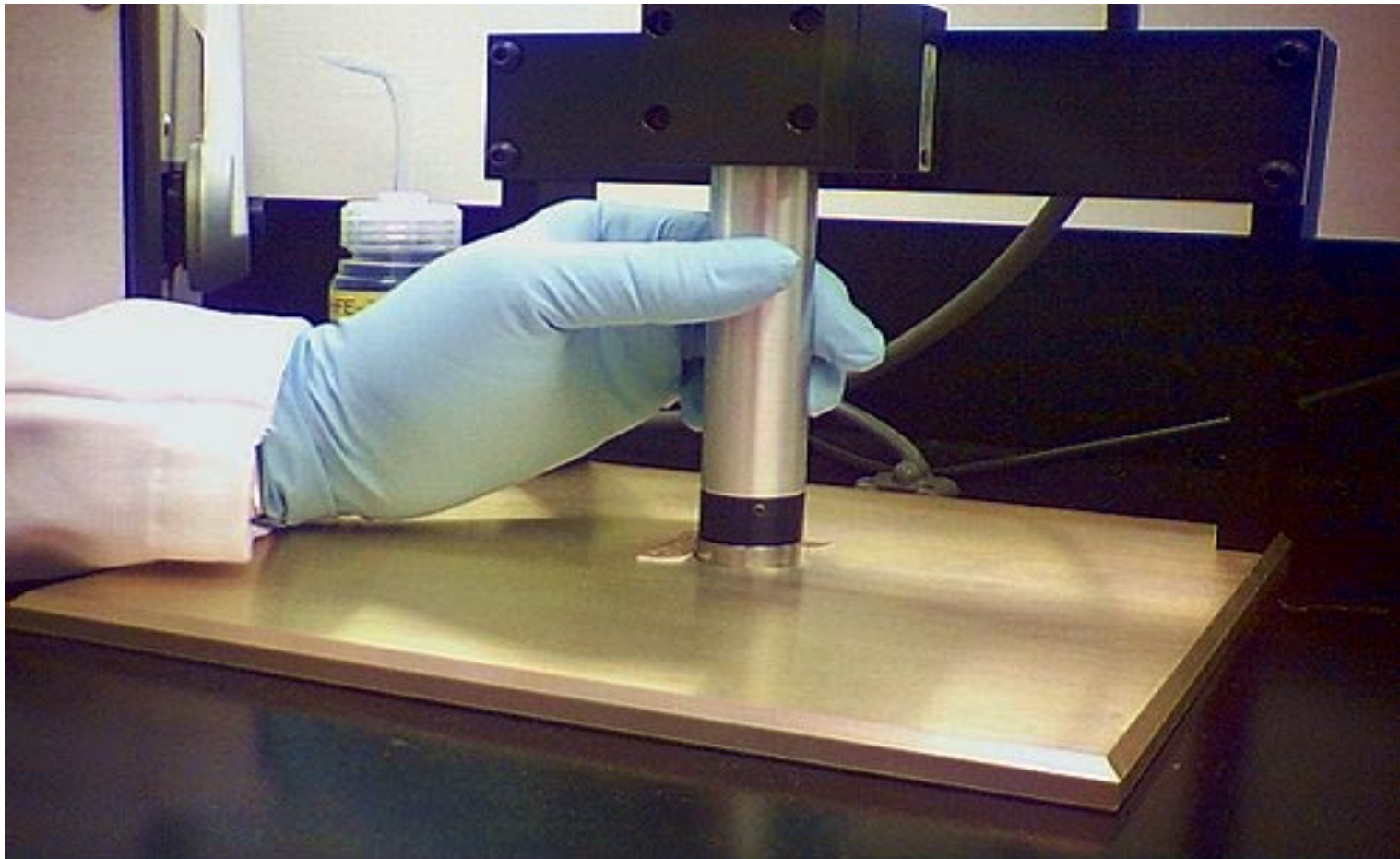


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SQM



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SQM



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SQM

- Reads photo current value from a surface irradiated with UV light (Photo emission)
- Compares the photo current value of a clean surface with that of a contaminated surface
- It measures a physical response; not an intrinsic property

SQM

- Can detect changes on surface. Cannot identify contamination
- Changes depend on photo emission characteristics of contaminants: photo emitting or non-photo emitting

FTIR UPGRADE SUPPORT

- Procedure, install./config., training available in CD-ROM developed at Concord
- FTSC LANT/PAC reps. available for on-site support
- NTTC Corry Station has integrated FTIR training in curriculum